



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,754	10/29/2003	Peter F. Gerhardinger	1-15693	6675

1678 7590 04/18/2005
MARSHALL & MELHORN
FOUR SEAGATE, EIGHT FLOOR
TOLEDO, OH 43604

EXAMINER

PAIK, SANG YEOP

ART UNIT PAPER NUMBER

3742

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,754

Applicant(s)

GERHARDINGER, PETER F.

Examiner

Sang Y Paik

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/16/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petri et al (US 5,420,398) or Mannuss et al (US 5,489,764) in view of Lanham et al (US 6,037,574) or Button (US 3,610,888).

Petri or Mannuss shows a heating assembly including a pan made of a metal, an insulating frame made of a dielectric material, a substrate made of a ceramic material further having a heating element disposed thereon, a temperature sensor, and a control system to regulate the electric current to the heating element. Petri further shows that the insulating frame is a ring, and Mannuss further shows the pan attached to the cooktop. However, neither Petri nor Mannuss shows the conductive coating disposed on the substrate with at least two bus bars contacting the conductive coating.

Petri and Mannuss teach that the heating element that is disposed on the substrate can be made of a thick-film resistor. Lanham shows that it is well known to provide the thick film as a coating that is ink printed on a substrate with bus bars or leads applied to the end portions of the conductive coating to provide the electrical connection to a current source. Button also shows that it is well known to provide a heating element in the form of a conductive coating made of the metal oxides on a substrate made of a borosilicate to provide a mechanically strong heating

Art Unit: 3742

device with a good electrical conductivity. Button also shows the bus bars applied to the conductive coating to provide the electrical connection.

In view of Lanham or Button, it would have been obvious to one of ordinary skill in the art to adapt Petri or Mannuss with the conductive coating as an alternative heating element that forms the thick-film heater which provide a mechanically strong heating element in a high temperature setting.

With respect to claims 7, 8 and 12, it would have been obvious to one of ordinary skill in the art to apply the heating assembly taught by Petri and Mannuss, as modified by Lanham or Button, in electrical heating devices including a warming drawer, bread warmer or any other heater devices since Petri and Mannuss leave it to one of ordinary skill to apply its heating assembly to many other electrical heating devices and, furthermore, their heating devices would also have been capable of being used as a warmer drawer, a bread warmer or countertop burners having the substantially same structure as that of the claimed structure.

With respect to claim 11, while the claimed gap dimension between the substrate and cooktop is not explicitly disclosed, a gap between the cooktop and substrate is shown in Mannuss. It would have been obvious to provide the claimed gap within the claimed range to allow the heating element to radiate heat to the cooktop as well as to provide the convection heat between the cooktop and the substrate, and the claimed range would have been obvious to keep an optimal heat transfer between the cooktop and the substrate without losing heat if and when such gap is too great.

Art Unit: 3742

3. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over 1-15 and 17 as applied to claims above, and further in view of Youtsey et al (US 4,032,751) or Oberle (US 6,194,692).

Petri or Mannuss in view of Lanham or Button shows the heating assembly claimed except the bus bars made of copper.

Youtsey or Oberle shows that it is well known in the art to provide the bus bars or electrical terminals made of copper. In view of Youtsey or Oberle, it would have been obvious to one of ordinary skill in the art to adapt Petri or Mannuss, as modified by Lanham or Button, with the bus bars made of copper since such material is well known in the art to provide a good electrical conductivity.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sang Y Paik
Primary Examiner
Art Unit 3742

syp